

REMARKS

Claims 1, 3-10, 12-20, 22-29 and 31-37 are pending in the case and are rejected.

CLAIM REJECTIONS UNDER 35 U.S.C. §132(A)

The Examiner objected to the amendment filed on June 22, 2005 under §132(a) stating that the amendment added new matter. Specifically, the Examiner took issue with the words "flexible waveguide" as used in the amendment of several of the claims. In the Interview, the Examiner and the Applicant's representatives agreed upon the language of "bendable" to address that objection. The claims are amended accordingly herein.

CLAIM REJECTIONS UNDER 35 U.S.C. §102

Claims 6, 8 and 18 are rejected as being obvious under 35 U.S.C. §102(b) as anticipated by Tawil (U.S. Patent No. 5,235,297).

Claim 6 has been amended to further clarify the claims and now recites a bendable waveguide with a first multiplexing waveguide network coupled at an end of the bendable waveguide and configured to couple with multiple antennas and a second multiplexing waveguide network coupled at an opposite end of the waveguide to couple simultaneously with electronics operating in at least two different frequency bands. The multiplexing networks are configured to combine multiple frequencies and applications

associated with the antennas and electronics. The Tawil reference merely teaches a directional coupling manifold, which includes a section of waveguide 62 that includes channel 64, comprising a polarizer 66 and a filter 68. The purpose as set forth in Tawil is to couple multiple channels onto a single antenna, such as a microwave antenna, as noted in the Background Section of Tawil. Each of the channels 64 is similar and merely intercepts the waveguide along its length. Claim 6 in the application recites to a multiband/multichannel wireless feeder, which includes a bendable waveguide having a first multiplexing waveguide network coupled at an end and configured to couple with multiple antennas and a second multiplexing waveguide network coupled on opposite ends, coupled simultaneously with electronics operating in at least two different frequency bands. Particularly, the present invention is directed to a feeder that couples electronics operating in different frequency bands to antennas that would operate at those frequency bands.

The Tawil reference does not in any way teach such multiplexing waveguide networks, and certainly does not teach multiple multiplexing waveguide networks coupled at opposite ends of a bendable waveguide to go up a tower or support structure so as to couple the electronics at the base station to multiple antennas at the top of the tower. Therefore, because the Tawil reference does not teach each and every element as recited in claim 6, that claim cannot be anticipated under §102(b) and would be allowable. Claim 8 recites a unique combination of elements and further is dependent from claim 6, and thus would also be allowable and is not anticipated by the Tawil reference. Similarly, claim 18 is dependent from claim 6 and thus would not be

anticipated under §102(b). Furthermore, claim 18 recites a unique combination of elements not anticipated by the Tawil reference. Therefore, claims 6, 8, and 18 are allowable over the cited prior art.

CLAIM REJECTIONS UNDER 35 U.S.C. §103

Claims 1, 4-5, 12-16, 22-26, 28, and 32-37 are rejected under 35 U.S.C. 103(a) over the combination of Ben-Dov (U.S. Patent No. 4,885,839) as modified by the Tawil reference. Of that pending claim set, claim 16 has been canceled. The Applicant believes that the Examiner also meant to reject independent claim 10 as, although it was not specifically listed, it was discussed in the section of the Office Action addressing the obviousness rejections.

Of the rejected claim set, claims 1 and 10 are independent claims. The Applicant also notes that claim 29 is not listed as being rejected in the Office Action. However, claims dependent from claim 29 have been rejected under §103(a) as obvious. Therefore, the Applicant believes that the Examiner may also have meant to include claim 29 in the rejection over Ben-Dov/Tawil and, thus, claim 29 is also addressed in this Response.

Independent claims 1, 10 and 29 have been amended similar to claim 6, as discussed above. Specifically, claim 1 recites a multiband/multichannel wireless feeder that includes a bendable waveguide and a first multiplexing waveguide network coupled at an end to the bendable waveguide to couple with multiple antennas and a second

multiplexing waveguide network coupled at an opposite end of the bendable waveguide to couple simultaneously with electronics operating in at least two different frequency bands. As noted, the multiplexing waveguide networks are configured to combine the multiple frequencies and, thus, direct signals to multiple antennas. Therefore, the invention allows at least two different antennas, and associated base station electronics operating at two different frequency bands to utilize the same wireless feeder of a support structure. That is, multiple frequency bands are addressed such that multiple antennas are coupled to respective electronics at the base of the support structure or tower.

The Ben-Dov reference merely discloses a way of fabricating a waveguide such that the waveguide acts like a rectangular waveguide, but has the wind resistance of a circular waveguide. While it connects between a single antenna, at the top of a tower, and a system in a building 510 at the base of the tower, the Ben-Dov reference does not in any way disclose the utilization of a multiband/multichannel wireless feeder, which includes first and second multiplexing waveguide networks that are coupled at opposite ends of a bendable waveguide to feed multiple antennas in two different frequency bands. Thus, the Ben-Dov reference would be completely incapable of providing the benefit of the present invention, which is to couple multiple antennas with associated electronics operating in at least two different frequency bands in a single feeder, which is bendable or flexible and may proceed up the support structure or tower.

The Examiner argues that Ben-Dov teaches a wireless feeder, but does not disclose a multiplexing waveguide. The Examiner then relies upon the Tawil reference. However, as noted above, the Tawil reference merely teaches a waveguide coupler that incorporates multiple channel structures 64 into a length of waveguide manifold 62. The ends of that waveguide then couple to other waveguides. While the Tawil reference discloses coupling multiple signals into a single waveguide, there is absolutely no teaching in Tawil with respect to multiple multiplexing waveguide networks that are operable to couple at one end of a bendable waveguide to multiple antennas and a separate multiplexing waveguide network operable to couple at the opposite end to electronics operating at at least two different frequency bands. The Tawil reference is directed to generally to coupling signals together which may be transmitted over a single shared antenna. There is no teaching in Tawil regarding multiplexing to multiple antennas at an end of a bendable waveguide. Thus, even when the Tawil reference is combined with Ben-Dov, there is no teaching provided regarding utilizing first and second multiplexing waveguide networks at opposite ends of a bendable waveguide for coupling multiple antennas with electronics operating in at least two different frequency bands. Therefore, to a person of ordinary skill in the art, the combination of Ben-Dov and Tawil would not render obvious the invention as recited in claim 1 because it does not teach or suggest all of the elements recited in claim 1. Furthermore, pending claims 4-5 and 12-13 depending from claim 1 would also not be rendered obvious. In addition, each of those dependent claims recites a unique

combination of elements that would not be taught by Ben-Dov/Tawil. Thus, claims 4-5 and 12-13 are in an allowable form.

Method claim 10 has been similarly amended to recite a method involving the step of coupling antennas located proximate the top of the support structure to a first multiplexing waveguide network and coupling electronics operating at at least two different frequency bands to a second multiplexing waveguide network. Claim 10 further recites coupling a bendable waveguide between the respective multiplexing waveguide networks to couple together the antennas to handle the different frequency bands and applications associated therewith. For similar reasons as noted above, the Ben-Dov/Tawil combination does not in any way teach the method recited in claim 10. Thus, claim 10 is not rendered obvious by that combination of references and is allowable.

Similarly, dependent claims 22-26 and 28 would not be rendered obvious and would be allowable as they depend from claim 10. Furthermore, those dependent claims recite a unique method or process and combination of steps that are not rendered obvious by the cited references. Accordingly, these claims also are in an allowable form.

Finally, claim 29 has been similarly amended to recite a wireless communication system base station including at least two antennas at the top of a support structure wherein electronics located proximate a base of the support structure are operating in at least two different frequency bands. Claim 29 further recites a first multiplexing waveguide network coupled at an end of a bendable waveguide respectively with multiple antennas and a second multiplexing waveguide network

coupled at opposite ends of a waveguide coupled simultaneously which operate in at least two different frequency bands. Accordingly, for similar reasons as noted above, the Ben-Dov/Tawil combination does not in any way teach the method recited in claim 29. Thus, claim 29 is not rendered obvious by that combination of references. Claims 33-35 each depends from claim 29 and, would be allowable for that reason alone. Furthermore, those dependent claims recite a unique method or process and combination of steps that are not rendered obvious by the cited references. Accordingly, claims 33-35 are also in an allowable form.

Claims 3, 27 and 31, which depend from claims 1, 10, and 29 are rejected over the combination of Ben-Dov/Tawil as modified by Juds et al. (U.S. Patent No. 4,763,132). However, the Juds et al. reference is merely recited for teaching an elliptical waveguide. Juds et al. is specifically directed to a waveguide hanger and does not provide any teaching with respect to first and second multiplexing waveguide coupled at opposite ends of a bendable waveguide to simultaneously couple with electronics operating in at least two different frequency bands and the associated antennas for those frequency bands. Accordingly, claims 3, 27 and 31 would not be rendered obvious by Ben-Dov/Tawil/Juds et al. and thus those claims are allowable.

Claims 7, 9, 17 and 19-20 are rejected under §103(a) over Tawil as modified by Juds et al. Claims 7, 9, 17 and 19-20 each depend from claim 6. As noted above, claim 6 is not anticipated by the Tawil reference. Furthermore, the Juds et al. reference is merely recited to for an elliptical waveguide and, thus, does not provide the teaching lacking in Tawil such that a combination of Tawil/Juds et al. would render

obvious claim 6 or any of the dependent claims 7, 9, 17, and 19-20. Furthermore, those dependent claims recite a unique method or process and combination of steps that are not rendered obvious by the cited references. Accordingly, those claims are also in an allowable form.

CONCLUSION

Applicant submits that the currently pending claims are in an allowable form and not rendered obvious by the cited references and, therefore, requests a Notice of Allowability of the application at the Examiner's earliest convenience. If any issues remain in the case which might be handled in an expedited fashion, such as through a telephone call or an Examiner's Amendment, the Examiner is certainly encouraged to telephone the Applicant's representative or to issue an Examiner's Amendment.

Applicant knows of no fees due herein with this submission. However, if any charges or credits are necessary, please apply them to Deposit Account 23-3000.

Respectfully submitted,

WOOD, HERRON & EVANS, L.L.P.



Kurt A. Summe
Kurt A. Summe
Reg. No. 36,023

2700 Carew Tower
Cincinnati OH 45202
(513) 241-2324 (voice)
(513) 421-7269 (facsimile)